CLAIMS

1. A thin coating film having a thickness of less than 3 μm and comprising a continuous layer of fluorine-containing polymer formed by adhering directly to a substrate, said fluorine-containing polymer in the coating film having a hydrophilic functional group and a crystalline melting point of said fluorine-containing polymer being not less than 200°C.

2. The thin coating film of Claim 1, wherein a thickness of the coating film comprising the continuous layer of fluorine-containing polymer is not more than 2 μm.

3. The thin coating film of Claim 1, wherein a thickness of the coating film comprising the continuous layer of fluorine-containing polymer is not more than 1 μm.

4. The thin coating film of any of Claims 1 to 3, wherein the crystalline melting point of the fluorine-containing polymer in the coating film is not less than 300°C.

5. The thin coating film of any of Claims 1 to 4, wherein the hydrophilic functional group is at least one of hydroxyl, carboxyl, salt of carboxylic acid, sulfonic acid group or salt of sulfonic acid.

6. The thin coating film of any of Claims 1 to 5, wherein the fluorine-containing polymer having a hydrophilic functional group is a

fluorine-containing polymer prepared by copolymerizing (a) 0.05 to 50 % by mole of at least one of ethylenic monomers having any functional group selected from hydroxyl, carboxyl, salt of carboxylic acid, sulfonic acid group or salt of sulfonic acid with (b) 50 to 99.95 % by mole of fluorine-containing ethylenic monomer which does not have said functional group.

7. The thin coating film of Claim 6, wherein the ethylenic monomer (a) having functional group is at least one of fluorine-containing ethylenic monomers having any functional group selected from hydroxyl, carboxyl, salt of carboxylic acid, sulfonic acid group and salt of sulfonic acid.

8. An aqueous dispersion for forming the thin coating film of any of Claims 1 to 7, which comprises 0.1 to 70 % by weight of fluorine-containing polymer having a hydrophilic functional group in the form of fine particles having a particle size of 1 to 200 nm and 30 to 99.9 % by weight of water.

9. A method of forming the thin coating film of any of Claims 1 to 7, which comprises coating the aqueous dispersion of Claim 8 on a substrate and sintering at a temperature of not less than a crystalline melting point of the fluorine-containing polymer contained therein.